

mercaptoalkyl, alkenyloxy, mercaptoalkenyl, aryloxy, mercaptoaryl, arylalkyloxy, mercaptoarylalkyl,  $\text{SC(O)R}_6$ ,  $\text{OS(O)R}_6$ ,  $\text{OS(O)}_2\text{R}_6$ ,  $\text{NHC(O)R}_6 = \text{NR}_4$  or  $\text{NHR}_4$ ;

$\text{R}_4$  is OH, alkyl, alkoxy, poly(ethylene glycol), alkenyl, aryl or arylalkyl; and

wherein each constituent can be substituted or unsubstituted, straight chain or branched chain, and hydrophobic, hydrophilic or fluorophilic;

provided that:

when  $\text{R}_6$  is propyl,  $\text{R}_2$  is Br,  $\text{R}_3$  is H or Br and  $\text{R}_9$  is Br, then Z is other than H,  $\text{OC(O)CH}_3$  or OH;

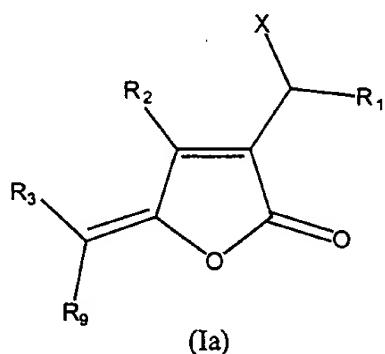
when  $\text{R}_6$  is propyl,  $\text{R}_2$  is Br,  $\text{R}_3$  is H and R is I, then Z is other than  $\text{OC(O)CH}_3$  or OH;

when  $\text{R}_6$  is propyl,  $\text{R}_2$  is Br,  $\text{R}_3$  is H and R is Cl, then Z is other than OH;

when  $\text{R}_6$  is propyl,  $\text{R}_2$  is H,  $\text{R}_3$  and R are Br, then Z is other than H; and

when  $\text{R}_6$  is propyl,  $\text{R}_2$  is Br,  $\text{R}_9$  is Cl and Z is H, then  $\text{R}_3$  is other than Cl.

2. (twice amended) A compound according to formula (Ia):



wherein  $\text{R}_1$  is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl;

X is a halogen, OH, OOH,  $\text{OC(O)R}_1$  or =O;

$\text{R}_2$  and  $\text{R}_3$  are independently or both hydrogen or halogen;

$\text{R}_9$  is halogen; and

wherein each constituent can be substituted or unsubstituted, straight chain or branched chain, and hydrophobic, hydrophilic or fluorophilic;

provided that:

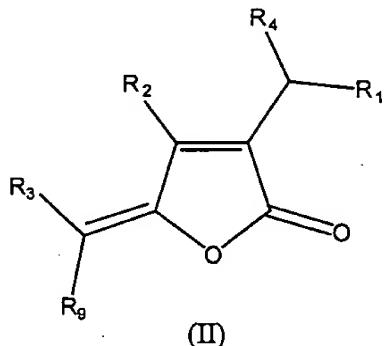
when  $\text{R}_1$  is propyl,  $\text{R}_2$  is Br,  $\text{R}_3$  is H or Br and  $\text{R}_9$  is Br, then X is other than  $\text{OC(O)CH}_3$  or OH;

when  $\text{R}_1$  is propyl,  $\text{R}_2$  is Br,  $\text{R}_3$  is H and  $\text{R}_9$  is I, then X is other than  $\text{OC(O)CH}_3$ , or OH;

and

when R<sub>1</sub> is propyl, R<sub>2</sub> is Br, R<sub>3</sub> is H, R<sub>9</sub> is Cl, then X is other than OH.

3. (twice amended) A compound according to formula (II):



wherein R<sub>1</sub> is hydrogen, [unsubstituted or substituted, straight chain or branched chain, hydrophobic, hydrophilic or fluorophilic] alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl;

R<sub>2</sub> and R<sub>3</sub> are independently or both hydrogen or halogen;

R<sub>9</sub> is halogen;

R<sub>4</sub> is selected from halogen, amine, azide, hydroxyl, thiol, or hydrophobic, hydrophilic or fluorophilic alkyl, alkoxy, mercaptoalkylalkenyl, mercaptoalkenyl, aryloxy, mercaptoaryl, arylalkyloxy, mercaptoarylalkyl, OC(O)R<sub>1</sub>, SC(O)R<sub>1</sub>, OS(O)R<sub>1</sub>, OS(O)<sub>2</sub>R<sub>1</sub>, NHC(O)R<sub>1</sub>, OC(O)NHR<sub>1</sub>, or =O; and

wherein each constituent can be substituted or unsubstituted, straight chain or branched chain, and hydrophobic, hydrophilic or fluorophilic;

provided that:

when R<sub>4</sub> is propyl, R<sub>2</sub> is Br, R<sub>3</sub> is H or Br, and R is Br, then R<sub>1</sub> is other than H, OC(O)CH<sub>3</sub> or OH;

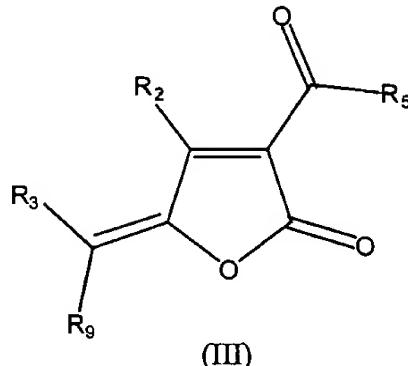
when R<sub>4</sub> is propyl, R<sub>2</sub> is Br, R<sub>3</sub> is H, R<sub>9</sub> is I, then R<sub>1</sub> is other than OC(O)CH<sub>3</sub> or OH;

when R<sub>4</sub> is propyl, R<sub>2</sub> is Br, R<sub>3</sub> is H, R<sub>9</sub> is Cl, then R<sub>1</sub> is other than OH;

when R<sub>4</sub> is propyl, R<sub>2</sub> is H, R<sub>3</sub> and R<sub>9</sub> are Br, then R<sub>1</sub> is other than H; and

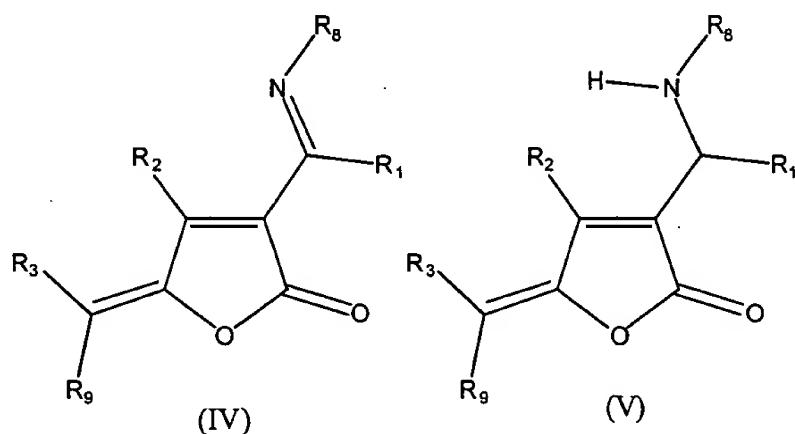
when R<sub>4</sub> is propyl, R<sub>2</sub> is Br, R<sub>3</sub> and R<sub>9</sub> are Cl, then R<sub>1</sub> is other than H.

4. (twice amended) A compound according to formula (III):



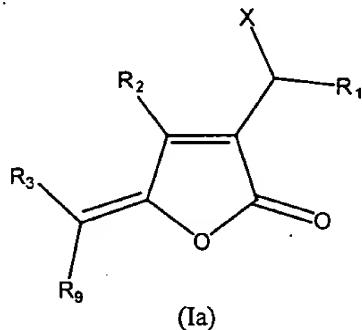
wherein R<sub>2</sub> and R<sub>3</sub> are independently or both hydrogen or halogen;  
R<sub>5</sub> is OH or the same as R<sub>1</sub>;  
R<sub>9</sub> is halogen;  
R<sub>1</sub> is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl; and  
wherein each constituent can be substituted or unsubstituted, straight chain or branched chain, and hydrophobic, hydrophilic or fluorophilic;

5. (twice amended) A compound according to formula (IV) or (V):



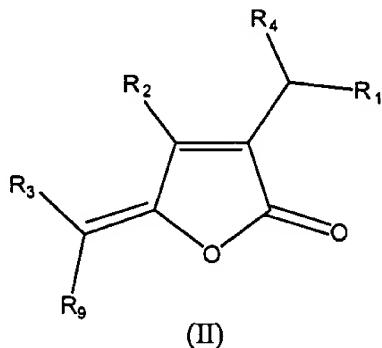
wherein R<sub>1</sub> is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl;  
R<sub>2</sub> and R<sub>3</sub> are independently or both hydrogen or halogen;  
R<sub>9</sub> is halogen;  
R<sub>8</sub> is OH, NHR<sub>1</sub>, NHC(X)NH<sub>2</sub>, NHC(X)NHR<sub>1</sub> or R<sub>1</sub> where X is O, S or NR<sub>1</sub>; and  
wherein each constituent can be substituted or unsubstituted, straight chain or branched chain, and hydrophobic, hydrophilic or fluorophilic.

6. (twice amended) A method for forming a compound of formula (Ia), comprising reacting a fimbrolide with a halogenating agent and/or an oxygenating agent to form the compound of formula (Ia):



wherein R<sub>1</sub> is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl;  
 X is a halogen, OH, OOH, OC(O)R<sub>1</sub> or =O;  
 R<sub>2</sub> and R<sub>3</sub> are independently or both hydrogen or halogen; and  
 R<sub>9</sub> is halogen.

9. (twice amended) A method for forming a compound of formula II, comprising displacing and/or functionalizing a halogen or oxygen substituent in the side chain of a fimbrolide compound by treating the fimbrolide compound with a nucleophile or an electrophile to form the compound of formula (II):

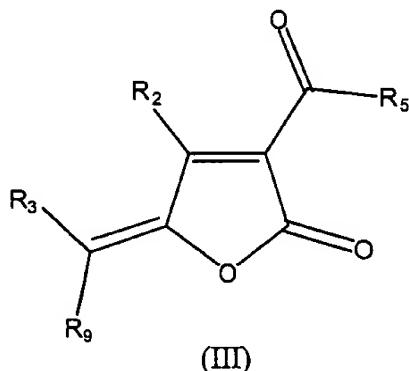


wherein R<sub>1</sub> is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl;  
 R<sub>2</sub> and R<sub>3</sub> are independently or both hydrogen or halogen;  
 R<sub>9</sub> is halogen; and  
 R<sub>4</sub> is selected from halogen, amine, azide, hydroxyl, thiol, alkyl, alkoxy, mercaptoalkyl, alkenyloxy, mercaptoalkenyl, aryloxy, mercaptoaryl, arylalkyloxy, mercaptoarylalkyl, OC(O)R<sub>1</sub>, SC(O)R<sub>1</sub>, OS(O)R<sub>1</sub>, OS(O)<sub>2</sub>R<sub>1</sub>, NHC(O)R<sub>1</sub>, OC(O)NHR<sub>1</sub>, or =O;

wherein each constituent can be substituted or unsubstituted, straight chain or branched chain, and hydrophobic, hydrophilic or fluorophilic;

provided that when R<sub>4</sub> is propyl, R<sub>2</sub> is Br, R<sub>3</sub> and R<sub>9</sub> are Cl, then R<sub>1</sub> is other than H.

12. (twice amended) A method for forming a compound of formula (III), comprising reacting an hydroxyl substituent in the side chain of a fimbrolide with an oxidising agent to form the compound in accordance with formula (III):



wherein R<sub>2</sub> and R<sub>3</sub> are independently or both hydrogen or halogen;

R<sub>5</sub> is OH or the same as R<sub>1</sub>;

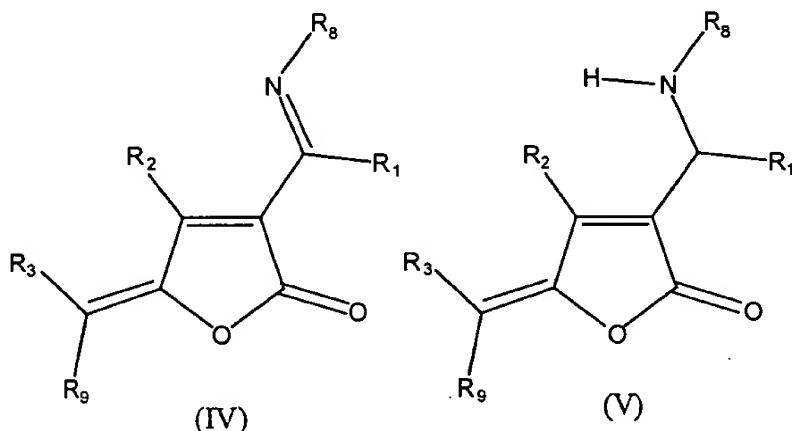
R<sub>9</sub> is halogen;

R<sub>1</sub> is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl; and

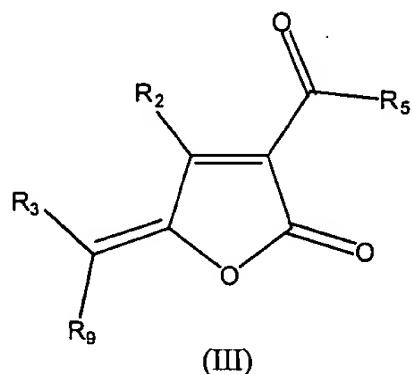
wherein each constituent can be substituted or unsubstituted, straight chain or branched chain, and hydrophobic, hydrophilic or fluorophilic.

15. (twice amended) A method for forming a compound of formula (IV) or (V), comprising reacting an aldehyde or ketone substituent in the side chain -C(O)R<sub>5</sub> of compound (III) with an amine to form a compound of formula (IV) or (V),

wherein formula (IV) and (V) are represented by:

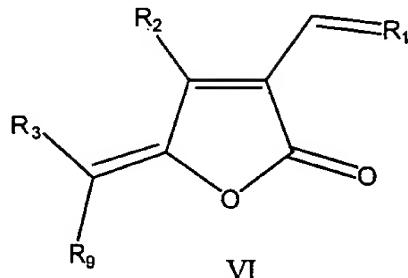


wherein R<sub>1</sub> is hydrogen, alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl;  
 R<sub>2</sub> and R<sub>3</sub> are independently or both hydrogen or halogen;  
 R<sub>9</sub> is halogen;  
 R<sub>8</sub> is OH, NHR<sub>1</sub>, NHC(X)NH<sub>2</sub>, NHC(X)NHR<sub>1</sub> or R<sub>1</sub> where X is O, S or NR<sub>1</sub>; and  
 wherein each constituent can be substituted or unsubstituted, straight chain or branched  
 chain, and hydrophobic, hydrophilic or fluorophilic;  
 and wherein formula (III) is represented by:



wherein R<sub>2</sub> and R<sub>3</sub> are independently or both hydrogen or halogen;  
 R<sub>5</sub> is OH or the same as R<sub>1</sub>; and  
 R<sub>9</sub> is halogen.

25. (twice amended) A compound of formula (VI):



wherein R<sub>1</sub> is alkyl, alkoxy, oxoalkyl, alkenyl, aryl or arylalkyl;

R<sub>2</sub> and R<sub>3</sub> are independently or both hydrogen or halogen;

R<sub>9</sub> is halogen; and

wherein each constituent can be substituted or unsubstituted, straight chain or branched chain, and hydrophobic, hydrophilic or fluorophilic.